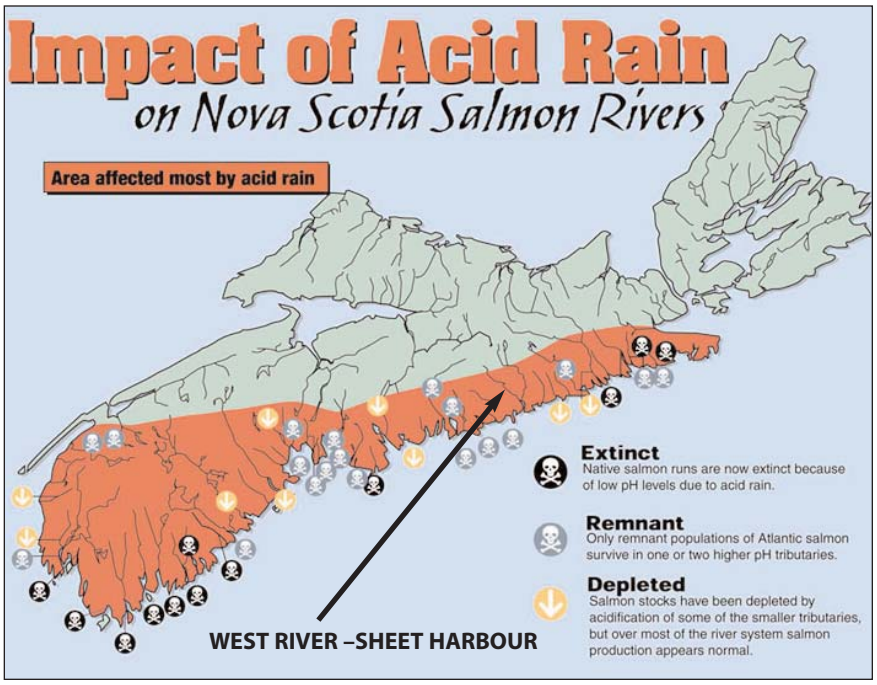
West River Acid Rain Mitigation Project

— *Update from Nova Scotia Salmon Association*

Nova Scotia has suffered more than any other region of North America as a percent of fish habitat lost from the effects of acid rain. Acid rain has negatively impacted the salmon populations in at least 50 of the 65 salmon rivers draining the coastal plain that extends the full length of the Atlantic coast of mainland Nova Scotia, the Southern Upland. The combined effects of acid rain and low marine survival are hastening the extirpation of all but a small number of the Southern Upland salmon stocks. The outlook for recovery of Nova Scotia's rivers affected by acid rain is possibly in the order of 50-100 years.



The Nova Scotia Salmon Association (NSSA) initiated an ambitious project to restore one of the rivers damaged by acid rain. The West River was selected as the site for the demonstration project through an extensive review exercise carried out by the NSSA's Acid Rain Mitigation Committee (ARMC), comprised of representatives from NSSA, Atlantic Salmon Federation, Trout Nova Scotia, Nova Scotia Power (EMERA), and both federal and provincial governments. The ARMC's exercise was guided by a report that detailed plans for liming four of the Southern Upland rivers. The report was contracted by the NSSA and prepared by Dr. Atle Hindar, a leading Norwegian researcher on liming strategies to combat acid rain effects.

The focus of the project is the main stem of the West River system. The liming is being conducted using a single doser, operated year-around. The project is mitigating the high acidity effects on about 1/4 of the West River system's habitat that was once utilized by salmon. The treated habitat offers the potential to produce about 10,000 wild smolts and is sufficiently large to provide a natural refuge for a wild salmon population. Brook trout production is also expected to be significantly enhanced.

The dosing apparatus utilized is the Norwegian-manufactured Kemira Kemwater lime system. This system is widely utilized in Norway. The Project will have a minimum life span of 10 years (i.e., 2 salmon life cycles). This term may be extended if water quality fails to improve sufficiently to sustain salmon reproduction and if no alternative action is warranted as a result of technology change.

Lime Doser being lowered into position near the river

The project will be supported by an extensive monitoring program to track changes in water chemistry, fish species composition and abundance, and invertebrate community structure. The project will also receive support from and provide assistance to other efforts to determine the effectiveness of different mitigation methods. In addition to monitoring, regular reporting and communications activities will occur during the life of this project.

The NSSA is responsible for the delivery of the project which is being managed by an individual who reports directly to the NSSA's Board of Directors. The NSSA is the owner of the Doser and responsible for its operation and liabilities. Scientific and technical advice is being provided by the NSSA's ARMC. The Doser is operated by volunteers from the Eastern Shore Wildlife Association (ESWA), the local affiliate group of the NSSA.

The doser went into operation on September 21, 2005 and we have seen an increase in pH values in the river system. ASF funded a graduate student from Acadia University studying, as part of his Masters degree, the impact and effect the liming is having on the West River ecosystem. Currently this student has completed the data collection and is writing his thesis.

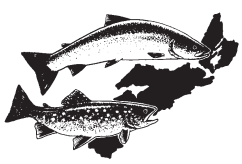
Water chemistry in the West River has improved since the doser started operating with pH values rising from approx. 4.5 above the doser to 5.6 at the river mouth, well within the safe limit for salmon, and in fact is 10 times less acidic than before treatment. As well, while it is too early to attribute real biological change in the river to the liming operation, researchers have noted a marked increase in trout growth rates and surveying migrating salmon smolts shows more fish than what was initially anticipated. This is very encouraging news for the success of this project. As well, a number of these young fish were moved to a DFO Biodiversity facility to ensure the genetic survival of these fish for any future stocking program, if required.

NSSA has, this year, purchased and put into operation a smolt wheel to count the number of smolts, juvenile salmon, migrating to the ocean. This expensive, but essential piece of equipment will help NSSA better measure the success of the liming project.

The total cost of the 10-year project is estimated at $726,476 CDN. Significant additional resources are being provided through "in kind" donations from NSSA's many partners. Organizations committed to providing support include ASF, Eastern Shore Wildlife Assoc., Trout Nova Scotia, Acadia University (AcU), EMERA, Neenah Paper, Nova Scotia Department of Fisheries and Aquaculture (NSDFA), Fisheries and Oceans Canada (DFO), Environment Canada (EC), Donner Foundation, Harrison McCain Foundation, and the Webster Foundation.

A smolt wheel on the West River Sheet Harbour is sampling smolts in 2007 – and early indications are that there are greater numbers of fish than originally anticipated – which bodes well for the success of this restoration project.

For more information on this exciting project, contact:



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